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## (54) PENEM DERIVATIVE, ITS PRODUCTION AND USE THEREOF

## (57) Abstract:

NEW MATERIAL: The compound of formula I (R is H or allyl; A is 5W6-membered heteroaliphatic group having 1W2 0 atoms in

the ring) or its salt.

EXAMPLE: (5R, 6S)-6-[1(R)-hydroxyethyl]-2-(2-tetrahydrofuranyl)methylpenem-3-

carboxylic acid potassium salt.

USE: An antibacterial agent against Grampositive bacteria, Gram-negative bacteria and anaerobic bacteria.

PREPARATION: The objective compound can be produced by reacting an N- ketoester derivative of formula III (R1 is OH-protecting group; R2 is allyl or carboxyl-protecting group) with triarylphosphines or

a trialkyl phosphite, converting the

reaction product to a compound of formula IV by heating and, if necessary, subjecting the resultant compound to the reaction to eliminate the protecting groups R1 and R2.

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